



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,015	04/08/2004	Yao-Ching Haung	CFP-015332 (20040118.ORI)	9305
23595	7590	09/23/2005	EXAMINER	
NIKOLAI & MERSEREAU, P.A. 900 SECOND AVENUE SOUTH SUITE 820 MINNEAPOLIS, MN 55402			SUTHAR, RISHI S	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 09/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary**Application No.**

10/821,015

Applicant(s)

HAUNG, YAO-CHING

Examiner

Rishi Suthar

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Chou (U.S. Patent No. 6,992,030).

Chou teaches in Fig. 4 an automatic diaphragm assembly for a lens, comprising: a body (6), having a front, rear, and a distal through hole (63) defined completely through the bottom of the diaphragm chamber; an aperture adjustment mechanism movably mounted in the diaphragm chamber comprising two reciprocal blades (221, 222), and each of the blades having an inward edge facing each other to define an aperture aligned with the distal through hole; and an actuating device (21) mounted on the body, connected to the blades to continuously actuate the reciprocal blades moving to define the aperture.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chou (U.S. Patent No. 6,933,030) in view of Nondahl et al. (U.S. Patent No. 6,218,749).

Regarding claim 2, Chou teaches the invention as claimed above in Fig. 4 and Fig. 5 further comprising a motor mount formed integrally from the front of the body; and the actuating device comprising a motor (21) mounted in the motor mount and having a shaft extended toward the front of the body and a stator; a transverse rod (211) attached to and rotated by the motor shaft and having two opposite ends, and two driving studs that are respectively attached to the ends of the transverse rod and extended in the diaphragm chamber to respectively connect to the reciprocate blades. It would be inherent that the interface shown on the left side of the motor in Fig. 4 is electrically connected to and having an inner segment extended in the motor. Chou does not teach a current sensor mounted on the inner segment of the interface in the motor to sense a current of the stator of the motor. Nondahl et al. discloses that current sensors have been provided that can be coupled to the stator windings to measure the current of the stator of the motor. It would have been obvious to one of ordinary skill in

Art Unit: 2851

the art at the time of applicant's invention to modify the motor used in Chou's assembly to include a current sensor in the motor for precise control of the motor (Chou et al., Col. 1, lines 24-27). It would be inherent that this sensor would be mounted on the interface in the motor.

Regarding claim 3, Chou teaches in Fig. 4 that the body further has two curved slots (61, 62) defined completely through the bottom of the diaphragm chamber; each of the driving studs (located on member 211) has an outside end, which are extended into and slidably held in the curved slots; each of the reciprocal blades (221, 222) has an overlapping segment and a driven arm, and each driven arm has a longitudinal through hole (located on left sides of blades as seen in Fig. 4) aligned with a respective one of the curved slots. It would be inherent that the aperture adjustment mechanism further comprises an end cap slidably mounted in the longitudinal through hole of each one of the driven arms and attached to the driving stub in the aligned curved slot to prevent the blades from detaching from the driving stubs.

Regarding claim 4, Chou teaches in Fig. 4 that the body of the assembly further has four positioning nubs (above and below through hole 63) protruded from the bottom of the diaphragm chamber and the positioning nubs are arranged in a rectangular disposition; and each of the reciprocal blades (221, 222) has multiple transverse slots and each of the transverse slots slidably holds a respective one of the positioning nubs.

Regarding claims 5 and 6, Chou teaches in Fig. 4 that the inward edge of each of the reciprocal blades (221, 222) is defined in the overlapping segment and has a V-shaped profile with an opening facing each other.

Regarding claims 7 and 10, Chou teaches that it is well known to use stepper motors in automatic diaphragm assemblies.

Regarding claims 8 and 11, Nondahl et al. teaches that the current sensor can include a Hall element (Nandahl et al, Col 2, lines 27-30).


Regarding claims 9 and 12, Chou teaches in Fig. 4 and Fig. 5 that the diaphragm assembly further comprises an end cover attached to the rear body to cover the diaphragm chamber and have a proximal through hole aligned with the distal through hole in the body.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Edamitsu et al. (U.S. Patent No. 6,533,473) and Nishimoto (U.S. Patent No. 6,767,146) both teach adjustable diaphragm assemblies.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RS


Michael Tokar
Supervisory Patent Examiner
Technology Center 2800